



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,879	10/21/2003	Tsuyoshi Kindo	2003_1497A	2775
52349	7590	12/07/2006	EXAMINER	
WENDEROTH, LIND & PONACK L.L.P.			AMRANY, ADI	
2033 K. STREET, NW			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20006			2836	

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,879

Applicant(s)

KINDO ET AL.

Examiner

Adi Amrany

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkhart (US 6,059,843), in view of Kim (US 5,621,250), and in view of Amano (US 6,806,588).

With respect to claim 1, Kirkhart discloses a power control unit (figure 2, item 50; column 3, lines 17-21 and 32-38) for controlling a power supply of a computer (figure 2, item 22; column 2, lines 59-67), which operates by obtaining a power supply from a main power source during normal operation (figure 2, item 48; column 3, lines 14-17), in a vehicle (figure 1) including an unlocking/locking detecting section (column 4, lines 4-9; column 5, lines 26-30) for detecting whether or not a door of the vehicle is unlocked/locked, an ignition key detecting section (column 3, lines 49-62, 63-66) for detecting whether or not an ignition key is switched from OFF to ON, and a battery, said power control unit comprising:

a battery control section (column 4, lines 31-38) for booting up the computer by starting a power supply from the auxiliary battery to the computer upon the triggering of a predetermined event; and

a power source switching section (figure 4, step 96; column 5, lines 3-7 and 43-52) for stopping a power supply from the battery to the computer and starting a power supply from the main power source when the ignition key detecting section detects that the ignition key is switched from OFF to ON during the power supply from the battery.

Kirkhart does not expressly disclose:

A. a time measuring section for measuring an amount of time from when the unlocking/locking detecting section detects that the door is unlocked, and booting up the computer if the unlocking/locking detecting section does not detect that the door of the vehicle is locked after the time measuring section has measured a predetermined amount of time;

B. an auxiliary battery for supplying power to the computer or that the power source switching section stops a power supply from the auxiliary battery.

A. Kim discloses a power control unit for controlling a power supply of a computer (figure 1; column 2, lines 48-67), in a vehicle including an unlocking/locking detecting section (column 3, lines 25-58) for supplying power to the computer (column 7, lines 8-28), comprising:

a time measuring section (column 8, line 48 to column 9, line 45); and

a control section for booting up the computer by starting power from the battery to the computer if the unlocking/locking detecting section does not detect a door lock after the predetermined amount of time (column 9, lines 24-45).

Art Unit: 2836

Kirkhart and Kim are analogous because they are from the same field of endeavor, namely vehicle power control units utilizing wake-up interfaces.

At the time of the invention by applicants, it would have been obvious to combine the power control unit disclosed in Kirkhart with the boot up delay disclosed in Kim, in order to prevent the computer from booting up every time the vehicle door is unlocked (Kim, column 8, lines 51-58).

B. Amano discloses a power control for a vehicle comprising a main battery and an auxiliary battery (figure 1, item 2; column 3, lines 23-27), which can be activated while the vehicle's ignition is off. Amano further discloses an auxiliary battery control section (figure 1, item 24; column 3, lines 47-58) for discharging power from the auxiliary battery depending on the size of the loads and the power remaining in the battery.

Kirkhart, Kim and Amano are analogous because they are from the same field of endeavor, namely power control units for vehicle power supplies.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to replace the low-power and high-power modes of the vehicle's main battery disclosed in Kirkhart, with the two battery system and auxiliary battery control section disclosed in Amano, in order to supply power from the auxiliary battery while the vehicle is off in order to maintain the main battery at a sufficient level to start the engine.

With respect to claim 2, Kirkhart, Kim and Amano disclose the power control unit according to claim 1. Amano further discloses the auxiliary battery control section is operable to monitor an amount of power remaining in the auxiliary battery (figure 1, item 23, column 3, lines 48-49), and to boot up the computer by starting a power supply from the auxiliary battery to the computer when the ignition is not on and the amount of power remaining in the auxiliary battery is equal to or greater than a predetermined value (figure 2, steps 170, 180 and 190; column 5, lines 41-67; column 6, lines 40-64).

Amano discloses a power control unit that detects the power remaining in the main and auxiliary batteries while the engine is off. Amano recites that loads may be shut off in order of priority as the batter power level decreases (column 6, lines 55-64). This is analogous to not turning on a load if there is insufficient power in the battery to activate the load.

As discussed above, Kim discloses that the computer is only booted up after a predetermined amount of time has passed without the doors being locked.

With respect to claim 6, Kirkhart discloses a power control unit (figure 2, item 50; column 3, lines 17-21, 32-38) for controlling a power supply of a computer (figure 2, item 22; column 2, lines 59-67), which operates by obtaining a power supply from a main power source during normal operation (figure 2, item 48; column 3, lines 14-17), in a vehicle (figure 1) including an unlocking/locking detecting section (column 4, lines 4-9; column 5, lines 26-30) for detecting whether or not a door of the vehicle is unlocked/locked, an ignition key detecting section (column 3, lines 49-66) for detecting whether or not an ignition key is switched from OFF to ON, a battery for supplying

Art Unit: 2836

power to the computer, and a user detecting section (column 4, lines 15-30) for detecting whether or not a user gets in the vehicle, said power control unit comprising:

a battery control section (column 4, lines 31-38) for booting up the computer by starting the power supply from the battery installed in the vehicle to the computer when the user detecting section detects that the user gets in the vehicle after the unlocking detecting section detects that the door is unlocked;

and a power source switching section (figure 4, step 96; column 5, lines 3-7 and 43-52) for stopping a power supply from the battery to the computer and starting a power supply to the computer from the main power source when the ignition key detecting section detects that the ignition key is switched from OFF to ON during the power supply from the battery.

Kirkhart does not expressly disclose:

A. a time measuring section for measuring an amount of time from when the unlocking/locking detecting section detects that the door is unlocked, and booting up the computer if the unlocking/locking detecting section does not detect that the door of the vehicle is locked after the time measuring section has measured a predetermined amount of time;

B. an auxiliary battery control section for supplying power to the computer or that the power source switching section stops a power supply from the auxiliary battery.

Art Unit: 2836

A. Kim discloses:

a time measuring section (column 8, line 48 to column 9, line 45); and
a control section for booting up the computer by starting power from the battery to the computer if the unlocking/locking detecting section does not detect a door lock after the predetermined amount of time (column 9, lines 24-45).

Kirkhart and Kim are analogous as discussed above.

B. Amano discloses an auxiliary battery (figure 1, item 2; column 3, lines 23-27), and an auxiliary battery control section (figure 1, item 24; column 3, lines 47-58) for discharging power from the auxiliary battery depending on the size of the loads and the power remaining in the battery.

Kirkhart, Kim and Amano are analogous as discussed above.

Claims 7 and 9-10 are rejected as being obvious over Kirkhart, in view of Kim, and in view of Amano. Claims 7 and 9-10 do not add new limitations not previously rejected in claims 1-2 and 6, as discussed above. Previous Office Actions have stated the similarity of the claims and that the same grounds of rejection of claims 1, 2 and 6 apply to claims 7, 10 and 9, respectively. Applicants' have not rebutted this assertion.

3. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkhart, in view of Kim, in view of Amano, and in view of Gillespie (US 6,393,573).

Kirkhart, Kim and Amano disclose the power control unit according to claims 1 and 7, but neither reference expressly discloses a state determining section for

Art Unit: 2836

determining a start state and end state of the computer, wherein the auxiliary battery control section is operable to boot up the computer by starting a power supply from the auxiliary battery to the computer only when the unlocking/locking detecting section does not detect that the door of the vehicle is locked after the time measuring section has measured a predetermined amount of time *and the state determining section determines that the computer is in a state in which it cannot be booted up unless an initial boot-up is completed.*

Gillespie discloses a power control unit for a multimedia system within a vehicle that performs a system boot-up only if it determines that the system requires a boot-up. The multimedia system comprises different start and end states (figure 2). The Gillespie power control unit provides for different methods to boot-up the multimedia system depending on the state of the system (column 4, line 13 to column 5, line 15). The system can be in several states, including: no power, sleep, power save, standby, standby+, and full power. Gillespie discloses that the time to boot-up the system from a no power state can be achieved in 6 to 10 seconds. The time to boot-up from standby or sleep, however, only takes 1 or 2 seconds, since the memory of the system has been saved (column 5, lines 17-23).

Kirkhart, Kim Amano, and Gillespie are analogous because they are from the same field of endeavor, namely power control units for vehicle electronic components.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the power control, unlock/lock detection, and time delay disclosed in Kirkhart, Kim and Amano with the processor state determining

Art Unit: 2836

section disclosed in Gillespie, in order to create a power management strategy, which reduces power consumption and boot-up time to facilitate the use of the in-vehicle computer system (Gillespie, column 1, lines 9-14).

4. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkhart, in view of Kim, in view of Amano, in further view of Hirano (US 4,688,036).

Kirkhart, Kim and Amano disclose the power control unit according to claims 1 and 7, but do not expressly disclose the ignition key of the vehicle and the auxiliary battery control section include authentication information for identifying a user of the vehicle,

the vehicle is operable to obtain the authentication information from the ignition key when it is detected that the door is unlocked,

and only when the unlocking/locking detecting section does not detect that the door of the vehicle is locked after the time measuring section has measured a predetermined amount of time *and the authentication information included in the auxiliary battery control section coincides with the authentication information obtained by the vehicle*, the auxiliary battery control section is operable to boot up the computer by starting a power supply from the auxiliary battery to the computer.

Hirano discloses a remote entry device for a vehicle containing a unique code signal that must be sent by the transmitter in order for the receiver to produce a driver signal to process the command (column 3, line 39 to column 4, line 9).

Art Unit: 2836

Kirkland, Kim, Amano, and Hirano are analogous because they are from the same field of endeavor, namely devices that control power consumption within a vehicle.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the power control, unlock/lock detection, and time delay disclosed in Kirkhart, Kim and Amano with the authentication information disclosed in Hirano, in order to provide a keyless entry to a vehicle that conserves electric power; by preventing the boot-up of the computer until the correct authentication code has been received (column 2, lines 1-3).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Theofanopoulos (US 6,437,460) discloses an interrupt event (door unlock) can trigger a wake up signal to be transmitted to the computer either immediately or after a predetermined delay (column 3, lines 16-29).
 - b. Irons (US 5,999,876) discloses immediate computer boot up when doors are unlocked.
 - c. Kusunoki (US 5,912,631) discloses a time measuring section for measuring a time after the doors are unlocked. At the end of the time, if no intervening event has occurred, the doors are relocked (no computer power up).

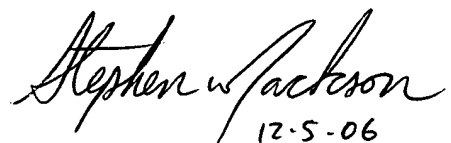
Art Unit: 2836

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA



12-5-06

STEPHEN W. JACKSON
PRIMARY EXAMINER